# Micro-foundations of Macroeconomic Policy

2 CHAPTER

*For the Indian economy this was a year of disappointing growth performance. During each of the previous two years, 2009-10 and 2010-11, India's gross domestic product GDP (at factor cost) grew by 8.4 per cent per annum. Further, in 2010-11, the GDP at market price grew by a remarkable 9.6 per cent. This performance, coming in the wake of one of the biggest global recessions in history, was outstanding. It fed expectations that India's short economic downturn in 2008-9, when the GDP grew by 6.7 per cent, was behind us and the economy was on its way to full-fledged recovery. That did not happen. The index of industrial production (IIP) dropped sharply in April 2011 and it has, thereafter, been seven months of indifferent performance. The services sector continued to do well and agriculture recovered but the mood in the economy was increasingly being set by the industrial sector and, in particular, manufacturing, which constitutes 75.5 per cent of industrial value added. Overall GDP growth declined to 7.7 per cent in the first quarter (Q1) and then to 6.9 per cent in Q2 of 2011-12. The advance estimates of the Central Statistics Office (CSO) has placed growth in real GDP at 6.9 per cent in 2011-12. This is a somewhat curious situation because how we evaluate these numbers depends critically on the analyst's perch. Given the global despondency, and steadily deteriorating global growth scenario, these numbers look good rather than bad, especially if one's perch were to be in Europe. However, compared to how India has fared since 2003 and, especially, since 2005, they are disappointing.*

2.2 Lest we fall into the trap of complacency, it is better for Indian policymakers to use the latter perspective as the benchmark and ask what caused the slowdown and what we as planners and architects of policy can do to pull India back to where it was—among the three or four fastest growing economies in the world—so that these last seven or eight months go down as a small downswing and we quickly pull back to rapid, inclusive development. Such a task is entirely within the realm of the feasible. The only risk is that, when it comes to the economy, there is always a fire to fight. It is important to realize that if, however, all our time is spent fighting fires, it is likely that, in the long run, there will be more fires to fight because not enough time and effort would have been spent on research and development of non-flammable materials. Hence, to craft good policy, something that stands us in good stead not just the next day but puts the nation on a stable path to a better future, there is need to occasionally step back, take stock of what we are doing and how, dip into contemporary research, evaluate old and new policy initiatives, and try to innovate. The **Economic Survey** is meant to do some of this and, especially, Chapter 2 over the last few years has been devoted to the task of taking a deeper look at the state of the economy and suggesting policies to put India on a surer footing for sustained, inclusive growth and all-round development.

2.3 Accordingly, the chapter is devoted to some of the most pressing problems that arose during the year—such as inflation, slowdown in industrial

growth, exchange rate fluctuations triggered by Standard and Poor's (S&P's) downgrading of the US sovereign rating, the balancing act between monetary and fiscal policies—and some of the challenges we face this year as a consequence of it being the start of a new Five-Year Plan— including laying the foundations for major infrastructural investment, building human capital, and eradicating poverty and malnutrition. All these topics are addressed in one form or the other throughout this Survey. In the present chapter, they are investigated at a more micro-foundational level and with an eye to presenting new ideas for research and actual policy. In India, when policies have failed, they have done so more often because of faulty implementation and fault lines in the detail rather than in the broad conception. The error has usually been in misreading the incentives and behavioural traits of the individuals who are to benefit from the policies and those who are supposed to carry out their day-to-day functioning. Fortunately, this is beginning to change both in the discipline of economics as well as in the design of policies in India. There is increasing recognition that flawed micro-foundations can devastate the best of macro intentions.

## Inflation And Growth: Monetary and Fiscal Policies

2.4 Fiscal year 2011-12 began with inflation precariously close to double digits. Wholesale price index (WPI) inflation in April 2011 was 9.74 per cent, and food inflation 8.95 per cent, showing little sign of easing. Since high inflation had begun in December 2009, this was a matter of major concern, leading observers to ask if this was the new normal we would have to get used to. Government continued to fight this malaise with numerous calibrated steps, which constituted a combination of policies to improve supply, especially of food and basic agricultural products, and curb fiscal and revenue deficits. Independently, the Reserve Bank of India (RBI) tightened monetary policy. It would be imprudent to claim that we got all the policies right. There can be important questions raised as to whether the government did enough on fiscal consolidation even allowing for the fact that this was a difficult year and whether the RBI was right in its use of interest rate policy in the current global scenario where industrialized nations are maintaining interest rates close to zero. Unlike some branches of economics, such as the theory of auctions, where economics provides hard and usable techniques akin to engineering principles, monetary and fiscal policies are part science and part intuition and common sense.

2.5 What is clear is overall, the package worked. Inflation began coming down from December 2011. Food inflation was down to around zero and general WPI inflation in January 2012 was 6.55 per cent. While the battle against inflation had some slowing down effect on growth, as we knew in advance would happen, there were no signs of major long-term damage or a rise in unemployment. What makes the inflation story heartening is that, after several months, government is in a position to turn its attention more exclusively to inclusive growth. As for inflation, we need to keep a watch, because we are not yet fully out of danger, and work to gently bring it down all the way below 5 per cent. But government's primary concern now has to be to advance the economy's productivity and improve income distribution. This means that during the coming year all hands have to be on growth.

2.6 The handling of India's inflation challenge consisted of a careful combination of effort on the part of the RBI and government, including the Ministry of Finance and several other ministries, along with advisory support by the Inter-Ministerial Group (IMG) on Inflation. There was action on several fronts—monetary, fiscal, and supply chain management to improve the movement of goods from farms to households. There were multiple policy ideas on the table. While that may have concerned some observers, in truth, what would have been more worrying is if there was total unanimity. There are some fields of economics where knowledge is well-settled and general agreement in these areas is of no surprise. But there are domains of economics where even researchers working at the frontline do not have consensus solutions. In such areas, to pronounce with certainty is to display ignorance. As Wislawa Szymborska, in her Nobel lecture, pointed out, 'If Isaac Newton had never said to himself, "I don't know," the apples in his little orchard might have dropped to the ground like hailstones and at best he would have stopped to pick them up and gobble them with gusto.'

2.7 Before turning to macroeconomic policy, it is useful to recount the importance of supply management in controlling the volatility of prices, especially of perishables, such as most food items. The fiscal year 2011-12 saw several initiatives to improve agricultural productivity and management of supply chains. In the last Budget, ₹ 400 crore

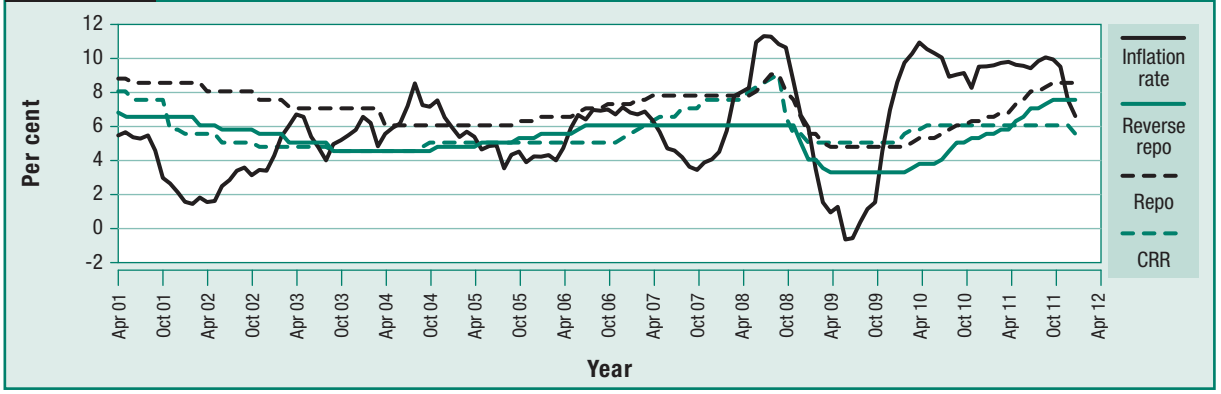
was allocated to promote green revolution in eastern India and ₹ 300 crore to boost production of pulses. These have yielded results and have contributed to the containment of food price inflation. There has also been special effort to improve foodgrain storage facilities, so that India can be more self-sufficient in food. The idea is to (1) procure basic foodgrains in order to make these available to poor and vulnerable households through various programmes, such as the targeted public distribution system (TPDS) and mid-day meal schemes, and also to (2) make sure that we build up our stocks in years of bounty and offload these in years of shortage. This is vital to stabilize prices from one year to another and for this, in turn, we need additional storage facilities.

2.8 The IMG on Inflation recommended several steps for improving supply chains from the farmer to the consumer. In a Position Paper, the IMG pointed out that it was often the case that for tomatoes farmers got a price of ₹ 3 per kg, while consumers paid ₹ 15 per kg. It recommended that we amend our Agricultural Produce Marketing Committee (APMC) Acts in order to cut down on the large middleman price margin. It recommended that one way to improve the supply chain and benefit farmers is to allow foreign direct investment (FDI) in multi-brand retail. The IMG argued that if this was permitted within a carefully crafted regulatory framework, there could be large gains for farmers and also for ordinary consumers. Further, it could create such large expansion of the retail sector in India that, eventually, even the small, middle traders would benefit. The argument is that, while the price margin between farm gate and retail would decline, the overall size of the retail business would increase sufficiently, so as to benefit middle traders by virtue of the larger volume of business. These ideas are now in the public domain for discussion and eventual policy action. In addition, there is need to ensure that there is free movement of agricultural products from one state to another.

2.9 Macroeconomic policymaking entails a mix of science and intuition. To ignore either of these would be a mistake. We need to marshal the best scientific knowledge available and study the microeconomic foundations of these macroeconomic concerns and then blend them with intuition and commonsense to craft policy. In India, monetary policy instruments typically consist of the repo rate, the cash reserve ratio (CRR), and some other occasional interventions, like open market operations and changes in savings bank interest rate policy, which may or may not be construed as monetary policy. It may be pointed out that savings bank interest rates have been deregulated since October 2011. Further, since the RBI announced earlier this year that the spread between the repo and the reverse repo rates will, now on, be held fixed at 100 basis points, those two instruments are now basically one instrument.

2.10 The question of interest is: How sharp are the connections between these instruments of control and the object of control, namely the WPI inflation rate? In answering this, Figure 2.1 is suggestive. In this figure, the two most important monetary policy instruments, the repo rate and the CRR, along with the target variable, WPI inflation, are displayed. As will be obvious by eyeballing the graph, the correlation between the policy instruments and inflation is slender. If we take the data underlying the graphs and subject these to careful statistical analysis by putting in lags, we will see that the policy instruments do have an impact on inflation with a lag. This is corroborated by careful studies done in industrialized nations. Nevertheless, there is plenty of white noise and the correlations are far from perfect. So much

**Figure 2.1 Policy rate changes and inflation**



so that there is room for a multiplicity of opinions about what constitutes optimal control (see Box 2.1). This highlights why we need sustained research in this field. It is testimony to India's commitment to openness that many different kinds of advice and schools of thought on this subject were put on the table.

2.11 The RBI increasingly voiced concern that the fiscal deficit that the government was tolerating was too high and made its task of controlling inflation harder. There were some in government who felt that the monetary tightening, successively 13 times, was not having adequate impact on inflation and the hardening interest rates were instead impacting more on growth; and that this needed rethinking because we were living in a world in which industrialized nations were maintaining near-zero interest rates, thereby creating a propensity for inefficient interest-rate arbitrage. The well-demarcated bifurcation of responsibility means that, in the end, the RBI has to independently decide what to do regarding monetary policy and the Ministry of Finance has to decide on fiscal policy. In keeping with this architecture of decision-making, each entity took account of the ideas on the table and took independent decisions in their respective zones. And it worked well. As remarked earlier, inflation has gradually eased off and without any major rise in unemployment.

2.12 This is not the end of the story; over the last few months growth has slowed and the government's fiscal balance is under strain. It can be legitimately argued that at a time when the risk of a second-dip recession in the world and an economic slowdown in India seems genuine, we have to be restrained in pruning the fiscal deficit in order not to exacerbate immediate growth deceleration. So this could not

## Box 2.1: Macroeconomics, Empirically Founded

Our understanding of the empirical foundations of monetary policy has undergone a virtual paradigm shift with the arrival of a new statistical tool, vector autoregression (VAR), developed by Christopher Sims. VAR allows us to study the interrelationships between a multiplicity of variables and their movements over time and makes it possible for us to get as close to causal connections as reality permits. By using this technique, researchers have been able to tease out the causal links between macroeconomic policy variables and inflation, something that to the naked eye looks quite hopeless since macroeconomic data come with so much white noise.

Studies using VAR and US data show that monetary shocks administered by the central bank in the form of altering the interest rate—the Federal fund rate in the case of the US—do impact monetary variables like the inflation rate, even though the time lags are very large and, also, the impact eventually tapers off. Similarly, positive spending shocks by government and sudden reductions in the tax rate can have a positive, albeit temporary, impact on real growth.

Seminal work by Thomas Sargent and his co-authors has shed light on the relation between inflation and unemployment. There seems reason to believe that, in the short run, the standard Phillips curve wisdom, namely that bringing down inflation tends to raise unemployment, is valid. However, in the long run there is little impact of this on unemployment. In other words, the impact of a change in inflation on unemployment is temporary. Unemployment eventually returns to where it was.

Research using these modern techniques has also enabled us to analyse the interconnections between different kinds of macroeconomic policies. Work by Sargent and Wallace, for instance, shows how monetary and fiscal policies are actually interlinked. Large fiscal deficits create the need for seigniorage; and since monetary policy can generate seigniorage, they create pressure on the central bank to use monetary interventions.

Unfortunately, most of these studies are based on US or European experience. While they show that the broad contours of these relationships are common to these nations, there are also some variations. This suggests the need for greater research using Indian data, especially since the differences may be more marked between a fully industrialized nation and an emerging economy. Also, with globalization occurring in leaps and bounds, the economic structure of the world is changing and it is conceivable that policies that worked earlier may not have the same efficacy or may need modification. At the level of national policy even minor improvements can have mega impacts on the well-being of the people. This simply underlines the need for more fundamental research in India. For the purely deductive theorems of economics it does not matter where they occur. But policy-related research can be very context-sensitive and it is imperative that India strengthens its independent capacity in this.

***References***: [1] Royal Swedish Academy of Sciences (2011), 'Empirical Macroeconomics,' *Scientific Background on the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2011*. [2] Sargent, T. J. (1971), 'A Note on the "Accelerationist" Controversy', *Journal of Money, Credit and Banking*, vol. 3. [3] Sargent, T. J. and N. Wallace (1981), 'Some Unpleasant Monetarist Arithmetic', *Federal Reserve Bank of Minneapolis Quarterly Review,* vol. 5. [4] Sims, C. (1992), 'Interpreting the Macroeconomic Time Series Facts: The Effects of Monetary Policy,' *European Economic Review*, vol. 36. [5] Gali, J. and M. Gertler (1999), 'Inflation Dynamics: A Structural Econometric Analysis', *Journal of Monetary Economics,* vol. 44. [6] Blanchard, O. and R. Perotti (2002), 'An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output', *Quarterly Journal of Economics,* vol. 117.

be the year of sharp fiscal tightening, even though the government considers it an imperative on the path of fiscal consolidation. Likewise, the RBI argued that in a year of high inflation, to let go on interest-rate tightening would give signals to market players that would not help. Luckily, the collective discussion and well-bifurcated policymaking domains have worked well, even though there are lessons to take away.

2.13 In the interest of medium- to long-term growth, it is important for us to bring the fiscal deficit down. While an expanded deficit can boost consumption and economic growth, this is medicine akin to antibiotics. It is very effective if properly used and in limited doses, but can cause harm if used over a prolonged period. Hence, government's aim must be to effect rapid fiscal consolidation. A large deficit over a long period tends to squeeze out the private sector from the credit space. This dampens private investment and productivity and, more significantly, worsens the options of the inflation-growth mix available to government. Research, dating as far back as 1958, has shown that when a nation works to bring down inflation, unemployment tends to rise and the growth rate tends to drop. While subsequent research has added plenty of caveats and provisos to this, the broad idea remains intact. When tackling inflation, government has to choose between different inflation-growth (or inflation-unemployment) pairs. And the feasible contour of these pairs is such that (in the short run) lower inflation means slower growth and possibly more unemployment. What sustained, large fiscal deficits do is to shift this entire contour such that the available options deteriorate. A particular level of inflation is now accompanied by a lower level of growth (or higher unemployment) than was the case earlier. Hence, if we want to keep inflation down and post robust growth, we have to aim for rapid fiscal consolidation.

2.14 The principal way in which this has to be achieved is by raising our tax-GDP ratio and cutting down wasteful expenditures. The centre's gross tax-GDP ratio (Budget Estimates [BE]) in 2011-12 stood at 10.5 per cent. This is below what we had achieved in the past and all effort has to be made to raise this. Our aim must be to cross 13 per cent by the last year of the next Five Year Plan period, which is 2016-17. The government has taken the position that in a nation with widespread poverty and malnutrition, the state has to take direct responsibility for eradicating the worst forms of such deprivation. It is worth reminding ourselves that, while growth is extremely important, its value is as an instrument for human development, for eradicating poverty. We take the view, in the spirit of what Mahatma Gandhi had urged us, that, in the end, a society ought to be judged by how its poorest segment fares.

2.15 This critical task of inclusion cannot be left to the free market. The untrammelled laws of the market play an important role in growth and efficiency, but they do not have a natural propensity to reach out to the poor and vulnerable. That has to be the responsibility of government. In keeping with this principle, government has mandated the commitment to provide basic needs, like food, education, and health services, to the poor (see Box 2.2). Several progressive legislations, enacted or about to be enacted, address these concerns. At the same time, it is important to remember that in devising the mechanisms for delivering these benefits, we have to utilize the forces of the market, not ignore them. We have to use the incentives of private agents to deliver on these services. For government the role has to be that of enabler. To try to deliver all these benefits by using the machinery of the state and the bureaucracy will be to create untenably large transactions costs and corruption. Good economic policy is all about choices. To be stubborn against the inevitable is to court failure, as Oscar Wilde did in the famous though arguably apocryphal story, in which, moments before his death in a cheap Paris hotel, he insisted that the wall-paper was so awful that either it would have to go or he would.

2.16 The simple rule that emanates from this is that for most of these benefits it is best not to tamper with market prices. Almost invariably the laws of the market end up getting the better of the policymaker. As far as possible, benefits should be delivered by directly empowering the poor and letting them choose for themselves. In the case of food subsidy, for instance, the view that the government takes is that it wants a law that ensures that basic needs of food are met for the entire population, with direct government intervention and subsidization in the case of the poor and the vulnerable. However, instead of having the government acquire all the food and then giving the subsidized food to designated stores to be handed over to the people, the aim is to gradually move to a system where the subsidy is handed over directly to the poor, so that they can use this to buy the food from the market. The income subsidy will then be periodically adjusted to make sure that these basic needs are available to them at, effectively, a reduced price. With this in mind, the

## Box 2.2 : Food and Inclusion

A central focus of India's economic policy is to achieve inclusive growth. However, while India's success in growth over the last two decades has been universally praised, much remains to be done on the inclusion front. Accordingly, the government is committed to making this a central tenet of policy. In doing so, it is worthwhile to be self-critical and analyse why India has not done better on this dimension despite so much energy and rhetoric directed to it. Some recent papers that analysed this, by focusing on the distribution of food, shed useful light.

It is a maintainable ethical principle that in any nation that is in principle able to provide food to all, basic food should not be treated as an option or a luxury, but as a right. The Indian government's new food security bill is rooted in this fundamental ethical precept and is, as such, highly desirable. An implication of this bill is that all the poor and vulnerable must be empowered by the state to be able to get their basic food requirements.

Before commenting on this it is worth clarifying that when economists measure poverty there can be two very different motivating factors. One is to see how the level of poverty is changing over time and the other is to identify the poor in order to direct benefits. When tracking the level of poverty over time we have to hold the poverty line constant (subject to corrections for the changing value of the rupee). This is for the same reason that we use the same standard over time to see if there is global warming occurring. To change the standard would make inter-temporal comparison quite meaningless.

However, to decide on whom to direct subsidies, we have reason to use different standards for measuring poverty. We could think of measures which change as society becomes better off and is able to service the poor better. One criterion in this spirit is the quintile income measure, which assesses society in terms of how its poorest 20 per cent population or the bottom quintile fares. We of course know that they do not fare well (see discussion in [2]). But what is more dismaying is that they do not even adequately get the benefits they are supposed to get. A study by Dutta and Ramaswami [4] showed using 1993-4 NSS data that the bottom quintile of rural population in Maharashtra and Andhra Pradesh got 10 per cent and 20 per cent, respectively, of the foodgrain that they were supposed to get. In general, several studies (e.g. [1] and [3]) confirm that our track record of delivering to the vulnerable remains highly flawed. One of the most comprehensive recent studies of this, by Swedberg [1], suggests that a key secret lies in giving the benefit to the poor directly. Swedberg estimates that to transfer ₹ 1 to a poor household by the current method of giving cheap food first to PDS stores and then having them transfer it to the poor, the Government of India incurs a budgetary expenditure of ₹ 9. At this rate a large food programme would be fiscally unviable.

Fortunately, with Aadhaar coming up, it is possible to make a cash transfer to the poor directly, which, especially if given to the female head of the household, can empower the poor and the women and sharply cut down leakages and the costs of the programme. This in turn means that we can greatly increase the coverage of the population that gets the subsidy. Success stories with cash transfer programmes from Mexico's Oportunidades and Brazil's Bolsa Familia bolster this argument. Of course, we have to be aware that in many regions of India private markets hardly exist and so we will in these regions have to, for now, rely on actual food being delivered through the PDS system. On the other hand, it is important to recognize that one reason private markets do not exist in these areas is because the people do not have enough buying power. Once we make cash transfers to them, private markets will develop even in these areas. This is what is meant by the enabling role of government. It should create a setting where it is in the interest of private agents to deliver on what needs to be delivered. (At the risk of creating an infinite loop, the reader may be referred to Box 2.3)

***References*** **:** [1] Svedberg, P. (2011), 'Reforming or Replacing the Public Distribution System with Cash Transfers?,' *Economic and Political Weekly*, vol. 47, 18 February. [2] S. Subramanian (2011), '"Inclusive Development" and the Quintile Income Statistic,' *Economic and Political Weekly,* vol. 46, 22 January. [3] Himanshu and A. Sen (2011), 'Why not a Unified Food Security Legislation?' *Economic and Political Weekly,* vol. 46, April. [4] Dutta, B. and B. Ramaswami (2001), 'Targeting and Efficiency in the Public Distribution System,' *Economic and Political Weekly*, vol. 36, May.

Finance Minister in his Budget speech in 2011 mandated the development of a platform that would enable direct delivery of basic goods like kerosene, LPG cylinders, and fertilizers; later food was added to this list. The idea is to use the new Aadhaar-based system (see Box 2.3) as the information technology based platform for this. Game-changer is an excessively used term but Aadhaar has the potential for being a game-changer for the Indian economy.

2.17 Turning to the deceleration of growth from April 2011, it is useful to try to pin down the principal causes. With Europe on the brink of a second successive recession, the foremost cause that stands out is the global slowdown. This slowdown is evident even from a cursory examination of the growth patterns over the various quarters of 2011 of the G-20 countries (the fourth quarter data are not yet available for some nations; see Table 2.1). There is only one country where all available quarters show monotonic improvement—Australia (the three quarters' annual growth being, chronologically, 1.1, 1.9, and 2.5). On the other hand, close to a majority of the G-20 countries show a monotonic decline in growth. India falls into the latter category even though its level of growth remains high even after the slowdown. The global near-recessionary condition

## Box 2.3 : Aadhaar's Progress: Plumbing for Better Public Service Delivery

The Unique Identification Authority of India (UIDAI), attached to the Planning Commission, is engaged in providing residents of India a Unique Identification number (called Aadhaar) linked to the resident's demographic and biometric information. The project aims to create a platform that serves as an 'identification infrastructure' for delivery of public and private services to the residents of India. The Aadhaar project is set to become the largest biometric capture and identification project in the world.

Aadhaar has huge potential for improving operations and delivery of services. Its potential applications in various significant public service delivery and social sector programs are as follows:

**PDS:** India's PDS with a network of 4.78 lakh fair price shops (FPS) is perhaps the largest retail system of its type in the world. The PDS is operated under the joint responsibility of the central and the state Governments. By using Aadhaar it is possible to have the subsidy go directly to the target households who can then purchase their food from any PDS store or maybe even non-PDS shops. The PDS system stands to benefit from Aadhaar in several ways:

- **Better Identification and Beneficiary Mobility –** Integration with the UID programme will lead to better identification of individuals and families making possible better targeting and increased transparency. Further, an individual who migrates to some other part of the country can easily continue to avail of his designated benefits.
- **Offtake Authentication –** The UID database will maintain details of the beneficiary that can be updated from multiple sources. The PDS system can use this database for authentication of beneficiaries.
- **Duplicate and Ghost Detection –** The UIDAI will provide a detection infrastructure to the PDS programme to weed out duplicate and ghost cards.
- **Support for PDS reform –** The UID will become an important identifier in banking services. This can support PDS reform by, for example, providing the banking account number for a family to effect direct cash transfer.

**Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS):** Incorporation of the UID into the MGNREGS programme (discussed in Chapter 13) will assist in addressing some of the major challenges that impede progress:

- **Payment of Wages -** The UID can replace the need to provide supporting documentation for the standard Know Your Customer (KYC) fields, making opening a bank account significantly simpler.
- **Ghost Beneficiaries –** Once each citizen in a job card needs to provide his UID before claiming employment, the potential for ghost or fictitious beneficiaries is eliminated.
- **Beneficiary Management –** The UID system will provide a platform for managing citizens who relocate or migrate from one place to another and want to seamlessly enjoy benefits of the programme.
- **Social Audit -** The village-level social audit committee can be selected after authentication with the UID database. The social audit reports filed by the village-level committees can be authenticated by the biometrics of the committee members and social audit coordinator.

**Public health:** Health, and health-related development schemes, could benefit from the UID. Public health in India is seeing a revolution in terms of (1) greater commitment towards government financing of public and primary health care, (2) pressure to meet the millennium development goals (MDGs), and (3) consequent creation of large supply platforms at national level such as the National Rural Health Mission (NRHM) and Rashtriya Swasthya Bima Yojana (RSBY).

What would be the public health associated pay-off from the application of the UID? Routine health information systems that capture and track the morbidity and mortality due to various disease conditions are critical to improving public health outcomes including life expectancy. Currently infrequent national or state surveys are the major mode of capturing data on infectious disease conditions. However, chronic or lifestyle diseases are not captured in any meaningful way even through surveys. An integrated routine health system that can capture and track population-level disease conditions by linking citizen IDs with hospital or other medical facility records generated through facility visits can (1) inform the public health system of the prevalence of various routine disease conditions and (2) help prepare the health system to respond to unforeseen epidemics. A partial example of (1) can be seen under the Rajeev Arogyasri insurance scheme in Andhra Pradesh.

**Education:** Currently the primary education system in our country faces a serious problem of inflated enrolment at school level. This results in significant leakages and serious implementation problems. Leakages occur in various areas, including mid-day meals, books, scholarships, provision of uniforms and bicycles. If UIDs are given to children, it will do away with the problems of multiple enrolments and ghosts. Provision of UIDs will ensure that there are no problems due to migration of students anywhere within the country as one would have no difficulty in establishing one's identity at the new location. It will effectively address the issue of education of children of migrant labourers as their children can be admitted at new places, without cumbersome verification. (Running the risk of an infinite loop, the reader is referred to Box 2.2.)

*References* : [1] 'UID and PDS', 'UID and Education', 'UID and Public Health', 'UID and MGNREGA', and 'Analytics : Empowering operations - The UIDAI Experience' available at http://uidai.gov.in/uidai-documents.html#publication.

[2] Khound, D. 'Improving Public Service Delivery : Building a New Aadhaar for a Billion Plus', in R. Malhotra (ed.) *A Critical Decade : Policies for India's Development*, Oxford University Press New Delhi, 2012.

impacts India directly through a slowdown in exports and drop in investment flows from foreign institutional investors (FIIs), and, in addition, through the somewhat mysterious ways of financial infection, which includes the drying up of trade finance. Even though there is effort afoot to ring-fence India from some of these, all these channels were at work at some level to bring down India's growth. Some of these are discussed in Chapter 7.

2.18 Second, there was the effect of measures to tighten liquidity to control inflation. This contributed to a slowdown, as was anticipated, though it is arguable that this had a larger impact because of the confounding effect of the current global situation, with industrial nations facing an economic downturn and creating liquidity to counter it. It should, however, be pointed out that the slowdown that inflation control causes is a temporary phenomenon. It usually begins to correct itself as inflation cools off.

2.19 A third factor, even though it is hard to quantify and for that reason is contestable, has to do with some slackening in the pace of reforms. One consequence of increased awareness of high-profile corruption scandals in different parts of India and welcome civil-society activism has been a sense of caution among civil servants in taking the final decision. Since one way to avoid the charge of an ill-considered or, worse, ill-intentioned decision is to take no decision, it is arguable that some civil servants in this season of charges and counter-charges have resorted to precisely this strategy. This would cause a slowdown in decision making. In addition, coalition politics and federal considerations played their role in holding up economic reforms on several fronts, ranging from diesel and LPG pricing and taxation reform like the goods and services tax (GST) and direct taxes code (DTC), to FDI in retail and reform of the APMC Act.

**Table 2.1 : Real GDP, Growth Rates**

(The growth rates are based on comparison of each quarter with the same quarter of the previous year)

| S. No. | Country | 2011 | | | |
|---|---|---|---|---|---|
| | | Q1 | Q2 | Q3 | Q4 |
| 1 | Australia | 1.1 | 1.9 | 2.5 | |
| 2 | Canada | 2.8 | 2.1 | 2.4 | |
| 3 | France | 2.2 | 1.6 | 1.5 | 1.4 |
| 4 | Germany | 4.6 | 2.9 | 2.7 | 2.0 |
| 5 | Italy | 1.0 | 0.8 | 0.3 | -0.5 |
| 6 | Japan | -0.1 | -1.7 | -0.6 | -1.0 |
| 7 | Korea | 3.9 | 3.4 | 3.6 | 3.4 |
| 8 | United Kingdom | 1.6 | 0.5 | 0.4 | 0.7 |
| 9 | United States | 2.2 | 1.6 | 1.5 | 1.6 |
| 10a | EU (27) | 2.4 | 1.7 | 1.4 | 0.9 |
| 10b | Euro Area | 2.4 | 1.6 | 1.3 | 0.7 |
| 11 | Brazil | 4.2 | 3.3 | 2.2 | |
| 12 | Russian Fed | 3.8 | 3.5 | 4.9 | |
| 13 | ***India**** | ***7.8*** | ***7.7*** | ***6.9*** | ***6.1*** |
| 14 | China* | 9.7 | 9.5 | 9.1 | 8.9 |
| 15 | South Africa | 3.7 | 3.3 | 2.9 | |
| 16 | Argentina | 10.0 | 9.5 | 10.0 | |
| 17 | Indonesia | 6.7 | 6.6 | 6.6 | 6.6 |
| 18 | Mexico | 3.9 | 3.9 | 4.4 | 3.7 |
| 19 | Saudi Arabia | NA | NA | NA | |
| 20 | Turkey | 11.0 | 8.1 | 8.5 | |

***Source*** **: OECD.**

*** Country Website.**

2.20 However, we expect growth to pick up in small measure soon, arguably even from the second quarter of 2012-13. This is not a statement concerning seasonality. Indeed, it is a common mistake to assert that there are some quarters when growth is higher because of seasonality. Seasonality can affect the level of production but it is almost a logical impossibility for seasonality to cause growth to be higher. If that were so then India would begin to look like an industrialized nation in certain quarters and slide back to a poor economy in the other quarters. The forecast that is being made is that actual growth will see a pickup. With inflation easing over the last month or two and government showing signs of taking steps to restart the reform process, there is reason to believe that the growth engines of India will be fired up sooner rather than later. The latest indicators, such as the Hong Kong and Shanghai Bank's (HSBC) purchasing managers index (PMI) and the most recent IIP numbers indicate a changing mood in the nation. This leads us to expect that growth in 2012-13 will be greater than that in 2011-12. As already indicated, we expect growth in 2012-13 to be 7.6 (+/-0.25) per cent. In 2013-14 it is expected that there will be further recovery for India and the nation will virtually be on the growth path it was on before the global recession of 2008. Our point forecast of growth for 2013-14 is 8.6 per cent. The major drivers of growth—the savings and investment rates as percentage of GDP—have moved down a little and stand at, respectively, 32.7 and 35.1 for 2010-11. These are less than in the previous year but still handsome figures. We expect these figures to go down in 2011-12, and then to rebound quickly as India consolidates fiscally, and to continue rising slowly thereafter, as the ratio of India's working age population to overall population rises because of the demographic dividend. All this

will contribute to very robust overall growth in the medium to long run. The nation also has large potential in manufacturing-sector exports as discussed in Chapter 7. If policies can be adopted to realize this, it is possible for India to take on the mantle of global growth leader within the period of the next Five Year Plan.

## Managing The Exchange Rate

2.21 A remarkable feature of India over the last two decades has been its opening up to the global economy. During 1990-9, India's exports plus imports of goods as a ratio of GDP was 18.8 per cent; this rose to 37.5 per cent in 2010-11. During 1990-9, India's service exports plus imports was 4.1 per cent of GDP; this rose to 12.9 per cent in 2010-11. During 1990-9, India's gross capital inflows and outflows as a ratio of GDP was 15.1 per cent; this rose to 53.9 per cent in 2010-11. These changes mark the arrival of India on the global economic stage and are a matter for celebration. But they also mean that our policies are intertwined with those of the rest of the world. The opening up was vital and has given the economy the enormous growth that it has achieved since the mid-1990s and a voice in global policy matters through G-20 and other international bodies. But it has also made us more sensitive to what happens in other nations, especially the systemically important ones. One of the most important conduits through which the world affects our domestic well-being is the rupee exchange rate. The exchange rate is like a vital pipeline that links all of India to the rest of the world. It is through this that goods, services, and investments flow in and out of the nation. The nation's growth and, especially, inflation are sensitive to the exchange rate.

2.22 During the last six months of 2011, and especially since early August, the Indian rupee depreciated sharply. It had reached a peak of ₹ 43.94 to the US dollar on 27 July 2011 and hit a trough on 15 December when the exchange rate was ₹ 54.23. This amounted to a depreciation of 19 per cent. However, the rupee regained value after that and came down to just over ₹ 49 by the third week of February 2012. Prior to these recent gyrations, the exchange rate had fallen out of public attention by virtue of having been uninterestingly stable for a long stretch of time. It suddenly came into sharp focus with the rapid depreciation, especially after it broke through the ₹ 54 mark in December 2011. The debate that broke out in public shows how contentious this topic can be. For years, Indian exporters had lamented that they found it difficult to compete with nations like China that maintained a depreciated exchange rate. Now, with the rupee depreciating, there was sharp criticism from the other side that imports were becoming prohibitively costly. And this resulted in a genuine concern about whether the depreciation may trigger inflationary pressures, emanating from the traded goods sector. This, in turn, led to questions concerning the policymaker's role. Should the RBI intervene in such situations and, if so, how? The RBI has traditionally taken the view, rightly, that interventions should not be made to alter the natural trend in the exchange rate but only to smoothen out volatility. It may be pointed out that even some fluctuations are best left untouched since they act like shock absorbers for the economy. However, there are speculation-driven fluctuations in the exchange rate that the central bank ought to dampen. What is being discussed here, however, is the pure technology of exchange rate management: How should it be done if and when a central bank wants to do it?

2.23 Central banks wanting to devalue their currency often intervene in the foreign exchange market by using domestic currency to buy up foreign currency or, conversely, if they want to revalue their currency, they intervene by selling off foreign exchange reserves. On 6 September 2011, the Swiss National Bank caused a stir by announcing a ceiling for the Swiss franc vis-a-vis the euro and stating that it 'was prepared to buy foreign currencies in unlimited quantities' in order to maintain this ceiling. Similar interventions by central banks to depreciate (and occasionally appreciate) currencies have been undertaken around the world. On 15 September 2010, the world felt the tremors when, following a sharp appreciation of the yen, the Bank of Japan sold yens and bought dollars. The immediate impact of this action was to weaken the yen vis-a-vis the US dollar. The RBI has also on occasion used with considerable dexterity similar actions to smoothen exchange rate fluctuations.

2.24 It may be pointed out that for a nation with capital controls, as is the case in India, there are interventions possible which do not entail the RBI buying or selling foreign currency. When the rupee depreciated sharply in the second half of 2011, measures were taken to relax some of the capital controls in the hope that this would allow more dollars to flow into the country, thereby lowering the value of the dollar and, in turn, allowing the rupee to appreciate. Thus the existing external commercial

borrowings (ECB) limit under the automatic approval route was increased from US$ 500 million to US$ 750 million for eligible corporates. For service-sector borrowers, the limit was raised from US$ 100 million to US$ 200 million. The FII limit for investment in government securities and corporate bonds was raised from US$ 10 billion and US$ 15 billion to US$ 15 billion and US$ 20 billion, respectively. A more detailed discussion of these policy changes occurs in Chapter 6.

2.25 Turning to the more ubiquitous method of the central bank buying and selling international currency, using the indigenous currency, in order to alter the exchange rate, it is evident that this method has its share of practical problems. There is, for instance, the risk that the bank that executes the central bank's order to, for instance, buy up dollars to help stall the appreciation of the rupee will front-run and buy some dollars for itself first, before executing the central bank's order. Once the central bank's large dollar purchase is executed, the dollar value will rise and the agent bank can then sell off the dollars and make a quick profit. Front-running is always a risk in these kinds of actions but even if this can be ruled out, there is the bigger problem that such interventions lead to a build-up or running down of foreign exchange reserves, with attendant costs and risks.

2.26 Closely intertwined with this is the question of attitude towards reserves. Should an emerging economy like India build them up to combat currency appreciation and run them down to battle currency depreciation? Interestingly, there is a critical difference between managing a depreciation and managing an appreciation, as was evident during this last round of sharp rupee depreciation. Countering an appreciation entails using rupees to buy up dollars. Since we own the printing presses that make rupee notes, in principle this can be done quite freely, even though it would in all likelihood have long-run adverse consequences. But battling a depreciation means using hard currency reserves to buy up rupees from the market. This has a natural constraint in the form of the quantity of foreign exchange reserves held by the country. And, in fact, well before one hits that constraint, the running down of reserves too sharply risks creating speculative bubbles. Hence there is need for some research on the question of 'how' to release and buy foreign currency in economies like India and, for that matter, all nations that are committed to a floating exchange rate system. It

## Box 2.4 : Central Bank Interventions

It is well known that different central banks (of nations committed to floating exchange rates) have often used different ways to buy and sell foreign currency from the market. On 29 November 2011, Mexico's Currency Exchange Commission, which comprises representatives of the central bank and Finance Ministry, announced that it was going to use US$ 400 million per day from its US$ 140 billion reserves if the peso declined more than 2 per cent in one day. This policy turned out to be effective and even in the past a similar policy has been successfully used by the Mexican authorities.

Some countries have done a lot of their transactions by making explicit announcements, others have made them with no announcements and have revealed their interventions retrospectively. Turkey decided that on the days on which the central bank planned to sell foreign exchange, the selling amount announced at 11.00 a.m. would be the maximum daily amount that could be sold; and, on every working day, the total maximum amount that could be sold for the next two working days via foreign exchange selling auctions began to be announced. Even in the US, to effect an intervention in the foreign exchange market, the Fed has on occasions contacted a dealing bank, such as Citibank, and bought currency at its quoted rate. Moreover, a lot of the Fed's interventions, by some counts nearly half, are done secretly.

Typically, a central bank is acutely aware of the fact that big private players try to game the central bank. What has not been explored adequately is the possibility of the central bank, in turn, using strategic moves in the market to its own advantage. The key is to make 'conditional' or 'schedule' interventions, which entail making the volume of purchase or sale dependent on the exchange rate, through which the central bank can influence the exchange rate without affecting its forex reserves. In other words, the central bank enters the market directly or through its agent bank not with a lump sum buy or sell order but with a full schedule of how to behave, conditional on what the exchange rate is. There is game-theoretic literature on analysing such conditional interventions. It turns out that by suitably designing these schedule interventions, a country can manage its exchange rate without taking undue burden of building up or running down its foreign exchange reserves. It is merely the assurance of how it will behave outside of equilibrium that makes this possible.

The literature is still quite new and there will have to be empirical tests and estimations and trial runs before these ideas can safely be put to use. But just as by properly studying the micro-foundations of auctions we have today transformed the art of conducting auctions, it is likely that there will be great improvements in the art of exchange rate management over the next years.

***References*** **:** [1] Auerbach, R. D. (1982), *Money, Banking and Financial Markets*, New York: Macmillan. [2] Basu, K. (2012), 'How to Devalue Exchange Rates, without Building up Reserves: Strategic Theory for Central Banking,' *Economics Letters*, forthcoming. [3] Dixit, A. and N.H. Stern, (1982), 'Oligopoly and Welfare: A Unified Presentation with Applications to Trade and Development,' *European Economic Review*, vol. 19. [4] Klemperer, P. and M. Meyer (1989), 'Supply Function Equilibria in Oligopoly under Uncertainty,' *Econometrica,* vol. 57.

is known that there can be variants in the manner of intervention and indeed different central banks in different nations have used variants of the Indian intervention.

2.27 One could, for instance, ask if the central bank should involve multiple agents to buy small quantities of dollars or just one to buy them all? Should the purchase be a simple instruction to buy at the existing market price or a conditional purchase instruction: if the exchange rate is *a* buy *b*, if it is *c*, buy *d*, and so on? It turns out that a lot depends on the micro-structure of how the purchase or sale is managed. In particular, it is possible to design interventions so that the RBI can influence the exchange rate without running down or building up reserves. The decision to influence the exchange rate and the decision to build up or run down reserves can be treated as two separate objectives (see Box 2.4).

## Finance and The Relativity of Sovereigns

2.28 For the ordinary observer it is easy not to understand the importance of finance. Finance and financial indicators to most people are abstract numbers moving up and down, whereas what matters are the real goods and services they consume. In truth, whereas we should indeed evaluate an economy in terms of the real goods and services consumed and the standard of living achieved by the people, finance is the vital conduit through which these goals are achieved. As we learned during the American sub-prime problem of 2007-8, a financial crisis is like an early blockage in the piping system. To start with, we may be oblivious of it, but soon this leads to the taps going dry.

2.29 Following the recent global financial crisis, several nations have been revisiting their regulatory architecture. India has also been prompt to act on this front. In 2010-11 two new agencies were set up—the Financial Stability Development Council (FSDC) and the Financial Sector Legislative Reforms Commission (FSLRC). The FSDC is a non-statutory apex council for coordination among various regulatory bodies, since in our increasingly complex economy, issues arise that straddle multiple financial jurisdictions and so risk falling through the cracks or getting caught in the crossfire. The FSLRC will outline the architecture of financial regulation and legislation in the future and so can have far-reaching consequences.

2.30 Looking back at the development of India's financial history, it is evident that equity financing in India is in good shape. The equity market was the focus of policymakers from 1992 and the focus has paid off. One form of financial activity, namely stock lending, is absent in India; but barring this, all sophisticated features of the world's top equity markets are now found in India. The two Indian exchanges, National Stock Exchange (NSE) and Bombay Stock Exchange (BSE), rank third and fifth in global ranking by number of transactions. These are indicators to be satisfied with, but they also place a large responsibility on our regulators and the government to make sure that these vital pipelines of exchange and trade remain healthy and contribute to the real economy's well-being. Where India remains stagnant is in the development of the bond market. The excessive reliance on bank credit and equity and relative insignificance of the bond market can at one level be dismissed as special to our economy. After all, nations have idiosyncrasies—some grow relying on services, some on industry. Every such special feature should not be an excuse for policy intervention. It has, however, been argued widely and persuasively that development of the bond market will help India further modernize finance and achieve greater entrepreneurial efficiency besides obtaining debt resources for infrastructural projects. Hence, there is a case for giving India's dormant bond market a policy nudge (see Box 2.5).

2.31 One interesting change, which has partially compensated the inadequacy of the bond market in India, is foreign borrowing. This has risen sharply. An interesting implication of this is that, as India has globalized and more and more foreign capital and investment flow in and out of the country, the ratings given by credit rating agencies begin to matter. The evaluations of sovereign rating agencies have been met with a mix of scepticism, enthusiasm, and concern in emerging economies that are new entrants in the global space. Even some industrialized nations have viewed the operations of credit rating agencies with concern, especially when their own credit ratings have been downgraded.

2.32 Sovereign bonds issued by industrialized nations used to be, for long, the safe asset. If one were interested in safety, without being fussy about returns, the sovereign bond market was the benchmark. As a consequence, this market grew at unimaginable pace over the last years. A study by Bank of America Merrill Lynch estimated that in 2001 there were US$11 trillion worth of sovereign bonds in

## Box 2.5 : Bond and Beyond

There is now ample empirical research to corroborate Schumpeter's conjecture that financial development facilitates real economic growth. The depth of the financial markets and availability of diverse products should therefore not be treated as mere adornment but as critical ingredients of inclusive growth.

In India, banks accounted for 14.4 per cent of the financing of large firms in 2000-1, and this rose further to 17.8 per cent in 2010-11. The bond market, on the other hand, has been miniscule in comparison. The thinness of the bond market has been somewhat compensated by foreign borrowing done by Indians, which rose sharply over the last decade.

Further, India is characterized by a disproportionate amount of secured borrowing. The small size of unsecured borrowing may, at first sight, not seem to be a matter of concern, but it could be a reflection of the weakness of contract enforcement and lack of adequate information. If contracts were quickly enforced and lenders had information on borrowers, they would be more willing to give unsecured loans. This would give a nimbleness to the financial markets which they presently lack.

There are many reasons why bond markets are important for an emerging economy. Prominent among these is the fact that they lead to more efficient entrepreneurship and greater value creation. When an entrepreneur takes a loan or issues bonds, all additional profit over and above the pre-fixed repayment amount accrues to the entrepreneur. So he or she is better incentivized to take sharper decisions. By having a weak bond market, we may be foregoing this efficiency. And further, this efficiency gap may well mean that there is less lending and hence less investment and entrepreneurship in the economy than is feasible. Further, as India tries to garner 500 billion dollars from the private sector in the Twelfth Plan for investment in the infrastructure sector, having an active bond market would be a valuable avenue for raising money.

There can be many reasons why, despite these advantages, the bond market has not developed adequately. One reason has to do with what economists call multiple equilibria. Consider a situation where the bond market is small. If you buy bonds and later wish to sell these off, you anticipate difficulty. Since the bond market is not active, you may not easily be able to sell the bonds you hold simply because you cannot find a buyer. Hence, this may lead to your not buying the bonds in the first place. If everybody reasons like this, the bond market remains thin. Hence, the need is for a push that nudges the market to another equilibrium, where people readily buy bonds because they know that they can easily sell these off and this becomes a self-fulfilling prophesy and sustains the large bond market.

There is effort currently on to try to boost India's debt and bond markets and success in this can give another fillip to growth.

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the world. By 2011, this rose to US$33 trillion. The sovereign bonds of mature industrialized nations were viewed as an opportunity for risk-free returns, even if the returns were minimal. With the eurozone turmoil, this picture changed quite dramatically, with observers commenting cynically on bonds that give you 'returns-free risk'. Some private bond investors who have invested in Greek sovereign bonds stand to lose close to 70 per cent of their investment. The reason for this gestalt shift in the status of sovereign bonds is clear enough in retrospect. The ability of eurozone nations to run up fiscal deficits but not have access to their own central banks that can be commandeered to monetize those deficits has no doubt contributed to this in a big way. But the fact of the matter remains that today sovereign bonds have moved to the centre stage of global economics and politics in a way that was never the case earlier. And with this, the routine exercise by credit rating agencies to rate sovereign bonds has also moved centre stage.

2.33 In August 2011, when S&P downgraded the status of the long-term sovereign credit of the United States, there was an element of shock and awe the world over. There were political leaders in the United States who protested about the unfairness of the rating. This rating event had large consequences for the US and also inflicted ample collateral damage on others. Whether the consequence was a form of self-fulfilling prophecy or an accurate description of the riskiness of investment, the fact remains that it affected economic life the world over. Curiously the sharp depreciation that the Indian rupee faced from August 2011 began with this seemingly unrelated news of the US downgrade. This downgrade was widely viewed by markets as an indication of further global turmoil. As a consequence, many foreign institutional investors pulled their capital out from around the world and placed it, ironically, in US treasuries. The reasoning was that even if the treasuries earned them very little money they were confident of not having to face a default. This in turn

meant that the dollar gained in value vis-a-vis numerous currencies and India was no exception.

2.34 Thereafter, a spiral of speculation and genuine nervousness took over and the rupee depreciated precipitously breaking through the 54 rupees (to the dollar) mark on 15 December 2012, before again returning to more 'normal' levels. It must be understood that some depreciation of the rupee was quite natural. As discussed in an earlier section, India has been facing high inflation for two years now, whereas inflation in the United States has been negligible. If the nominal exchange rate remained stable, this would mean that in terms of the real exchange rate the rupee was appreciating. Indeed, this is what was happening for several months. S & P's downgrading of the United States was like a gentle nudge to a golf ball which then sheds its inertia and moves to the more natural resting place. It is true that the exchange rate had depreciated abnormally but subsequent partial correction means that it is now at a more realistic level.

2.35 The rising importance of sovereign ratings raises the natural question: How has India fared? At one level the answer is easy to read off by consulting the websites of the major rating agencies. But this question gives rise to a related, more interesting question for which an answer is not readily available. Major credit rating agencies give out the sovereign credit rating of each nation as an absolute grade. How other nations fare does not matter in a particular nation's rating score. This is very different from a *comparative* rating, which is a statement of how a nation has done *in relation to others*. In evaluating a sovereign, comparative rating is clearly important. After all, if other nations find their ratings going down, then in an important sense this nation, even if its own absolute rating is unaltered, has done well. A comparative rating captures this idea. When an investor searches across nations for a place to invest her money, comparative rating is important. If nation *j*'s absolute rating is unchanged, but all other nations find their ratings rise, then nation *j*'s comparative rating would go down; and an investor may well have reason to consider pulling some of her investment out of that nation.

2.36 Since, for investors, relative or comparative rating is such an important concept, it was felt that there is need to develop a new index which captures precisely this idea. Accordingly, researchers in the Ministry of Finance have developed a new index called the 'comparative rating index for sovereigns' or, in brief, CRIS. Over the last few years, the global economy has gone through lots of highs and lows; and nations have moved up and down the ratings ladder. This makes it entirely possible that a particular nation that has had only a small rating change may now be better off or worse off in terms of the CRIS and the CRIS movement may well be in a direction different from the standard rating change. A nation that has travelled down the rating ladder in absolute terms may, in comparative terms, be better off because others have done even worse. How have nations fared over the last six years in terms of the CRIS? Box 2.6 elaborates on this idea and provides tabular information on how a selection of nations has done by this measure.

2.37 It is worth noting that India's CRIS has seen a rise from 23.81 in 2007 to 24.52 in 2012. Since the CRIS is a comparative rating score, it means that vis-à-vis the rest of the world, India's rating has risen by 2.98 per cent. The way the CRIS is constructed, the world's average CRIS score is always a constant. Hence, this is not an insubstantial rise. Unsurprisingly, the last six years have seen sharp declines in the CRIS for Greece, Portugal, Iceland, and many other nations. On the other hand, the CRIS has been rising for many emerging economies.

2.38 The changing profile of CRIS scores across the world tells us a major story about the changing map of the world economy in which emerging economies are moving into centre stage and becoming drivers of the global economy. Clearly, all emerging economies will not get to occupy that space. A lot will depend on how well a nation is equipped to seize this opportunity. Good policy—fiscal, monetary, and that pertaining to nuts and bolts efficiency—will matter; the ability to develop good governance and nurturing institutions will matter. India, despite the slowdown of the past year, has done remarkably well over the last two decades and especially since 2005. And the medium- to long-term prospects for India look excellent. However, the chronicles of nations are seldom foretold. There is a lot that remains to be done in India by way of reforms, fiscal and monetary policies, improving governance structures, controlling corruption, and developing infrastructure. Several of these topics are discussed in the sections that follow and also in the chapters that follow.

## Infrastructure, Finance, and Fiscal Prudence

2.39 For an emerging economy, the lynchpin of growth is investment. Fortunately India, having historically been a nation that saved and invested

## Box 2.6 : CRIS

The standard sovereign credit rating is a statement of how safe and rewarding a nation's credit is, without any account of where other nation's stand on this dimension. However, for investors it is often critical to know how a nation does in *comparative* terms. Accordingly, a new index has been developed that is called the 'comparative rating index for sovereigns' (CRIS). The detailed derivation of the CRIS is available in a forthcoming paper (see [1]). Over the last few months there were trial runs with different functional forms but the research team has now settled on a measure that has several attractive properties.

The precise mathematical formula for the CRIS, and hence the paper [1], is confidential. But its broad idea is easy to explain. It should first be clarified that its computation is based on nothing apart from standard ratings data and data on the GDPs of different nations in order to determine the importance or weights of different nations. For a variety of reasons, the researchers settled on Moody's foreign currency credit ratings and the International Monetary Fund's (IMF) GDP statistics, with no purchasing power parity (PPP) correction. Each nation's CRIS is constructed using these two sets of numbers.

Among the important mathematical properties of the CRIS are the following. (1) If nation *i*'s sovereign credit rating is constant, and all other nations' Moody's ratings rise, then nation *i*'s CRIS will decline. (2) The weighted average of the CRIS for all nations is constant. Hence, one nation's improvement in CRIS is invariably accompanied by worsening of the CRIS for some other nation or nations. (3) The CRIS has been constructed so as to register diminishing marginal returns to improvements in the absolute ratings.

The plan is to use the formula and give out CRIS scores of nations at regular intervals in order to help investors make better decisions and, in turn, for nations to evaluate themselves more effectively. In the paper [1] the CRIS is formally defined and then the profiles of 101 nations are tracked over time. The CRIS scores of certain selected nations from this paper are reproduced in Table 1.

**Table 1 : CRIS Scores of Select Nations with Percentage Change from 2007 to 2012**

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | % change from 2007 to 2012 |
|---|---|---|---|---|---|---|---|
| Paraguay | 14.36 | 16.13 | 16.16 | 19.19 | 19.48 | 19.56 | 36.23 |
| Indonesia | 20.31 | 20.40 | 21.68 | 21.76 | 23.29 | 24.52 | 20.75 |
| Philippines | 18.99 | 19.54 | 20.44 | 20.52 | 22.09 | 22.18 | 16.77 |
| Brazil | 22.70 | 22.81 | 24.33 | 24.42 | 25.86 | 25.96 | 14.37 |
| Turkey | 20.31 | 20.40 | 20.86 | 22.16 | 22.50 | 22.59 | 11.23 |
| Chile | 27.80 | 27.94 | 29.21 | 29.91 | 30.36 | 30.48 | 9.63 |
| China | 28.72 | 28.86 | 29.21 | 30.20 | 30.66 | 30.78 | 7.19 |
| Russia | 24.87 | 26.01 | 26.06 | 26.16 | 26.55 | 26.66 | 7.19 |
| Korea | 27.80 | 27.94 | 27.99 | 29.02 | 29.46 | 29.57 | 6.36 |
| Oman | 27.80 | 27.94 | 27.99 | 29.02 | 29.46 | 29.57 | 6.36 |
| Israel | 28.11 | 28.86 | 28.91 | 29.02 | 29.46 | 29.57 | 5.19 |
| Saudi Arabia | 29.01 | 29.15 | 29.21 | 29.91 | 30.36 | 30.48 | 5.06 |
| South Africa | 26.21 | 26.34 | 27.04 | 27.14 | 27.23 | 27.33 | 4.26 |
| India | 23.81 | 23.93 | 24.33 | 24.42 | 24.43 | 24.52 | 2.98 |
| Mexico | 25.88 | 26.01 | 26.06 | 26.16 | 26.55 | 26.66 | 2.98 |
| Australia | 32.11 | 32.26 | 32.32 | 32.44 | 32.93 | 33.06 | 2.98 |
| Canada | 32.11 | 32.26 | 32.32 | 32.44 | 32.93 | 33.06 | 2.98 |
| Germany | 32.11 | 32.26 | 32.32 | 32.44 | 32.93 | 33.06 | 2.98 |
| Malaysia | 26.86 | 26.99 | 27.04 | 27.14 | 27.56 | 27.66 | 2.98 |
| France | 32.11 | 32.26 | 32.32 | 32.44 | 32.93 | 32.79 | 2.12 |
| United Kingdom | 32.11 | 32.26 | 32.32 | 32.44 | 32.93 | 32.79 | 2.12 |
| United States of America | 32.11 | 32.26 | 32.32 | 32.44 | 32.66 | 32.79 | 2.12 |
| Botswana | 28.11 | 28.25 | 27.99 | 27.78 | 28.52 | 28.63 | 1.85 |
| Argentina | 16.58 | 16.13 | 16.16 | 16.22 | 16.47 | 16.53 | -0.29 |
| Tunisia | 24.87 | 24.99 | 25.04 | 25.13 | 24.05 | 24.15 | -2.91 |
| Lithuania | 27.80 | 27.63 | 25.72 | 26.16 | 26.55 | 26.66 | -4.13 |
| Belgium | 31.57 | 31.72 | 31.50 | 31.62 | 32.10 | 30.18 | -4.39 |
| Japan | 32.11 | 32.26 | 30.66 | 30.78 | 30.36 | 30.48 | -5.06 |
| Slovenia | 30.74 | 30.89 | 30.66 | 30.78 | 30.36 | 28.31 | -7.89 |
| Vietnam | 20.72 | 19.97 | 20.01 | 18.73 | 19.02 | 19.09 | -7.89 |
| Ukraine | 19.44 | 19.54 | 17.20 | 17.77 | 18.04 | 17.60 | -9.48 |
| Latvia | 27.80 | 26.67 | 23.60 | 24.06 | 24.79 | 24.89 | -10.49 |
| Pakistan | 18.54 | 15.58 | 16.16 | 16.22 | 16.47 | 16.53 | -10.82 |
| Spain | 32.11 | 32.26 | 32.32 | 31.62 | 29.15 | 27.33 | -14.87 |
| Hungary | 27.80 | 26.67 | 25.72 | 26.16 | 24.05 | 22.99 | -17.33 |
| Egypt | 22.32 | 22.43 | 22.85 | 22.94 | 19.02 | 18.11 | -18.87 |
| Iceland | 32.11 | 25.67 | 23.97 | 23.69 | 24.05 | 24.15 | -24.79 |
| Ireland | 32.11 | 32.26 | 31.23 | 25.82 | 22.90 | 22.99 | -28.41 |
| Portugal | 30.46 | 30.61 | 30.38 | 29.02 | 21.68 | 20.47 | -32.79 |
| Greece | 29.01 | 29.15 | 27.68 | 22.94 | 7.36 | 7.39 | -74.52 |

***Note*: Moody's long-term foreign currency sovereign ratings data updated up to 13 February 2012.**

If we use the full chart of 101 nations, among the countries with the highest increases in CRIS from 2007 to 2012 are Uruguay (25.12 per cent), Bolivia (24.72 per cent), Indonesia (20.75 per cent), Philippines (16.77 per cent), Peru (15.56 per cent), and Brazil (14.37 per cent). In interpreting these results, it needs to be borne in mind that for countries which began with low CRIS values, the scope for improvement is greater. Also, there are studies that show that nations with lower per capita income tend to have lower sovereign ratings. So it is not surprising that there are relatively few rich nations in the list of the highest achievers. Keeping in mind that India's per capita income is low, India's sovereign rating performance, both the level and the fact that its CRIS has risen over the last six years, is impressive.

It is interesting to note that while during this six-year period, the US dropped from first rank to 13th, its CRIS has increased. This simply means that nations ranked below it have done worse in terms of rating than the US, thereby boosting the US's comparative standing. India's CRIS has risen steadily throughout this six-year stretch. For many European nations, there was a rise in CRIS from 2007 to 2008; thereafter, there was a decline.

Twenty-seven economies, among the 101 that we track, had negative growth in CRIS across this period. Among these were Greece (-74.52 per cent), Portugal (-32.79 per cent), Ireland (-28.41 per cent), Iceland (-24.79 per cent), Egypt (-18.87 per cent), Hungary (-17.33 per cent), and Spain (-14.87 per cent).

**References**. [1] Basu, K., A. Bisen, S. De, R. Ghosh, and Shweta, 'The Relativity of Sovereigns: A New Index of Sovereign Credit Ratings and an Analysis of How Nations Fared over the Last Six Years,' Economic Division, Department of Economic Affairs, Ministry of Finance, Government of India, access embargoed. [2] Ferri, G., L.G. Liu, and J.E. Stiglitz (1999), 'The Pro-cyclical Role of Rating Agencies: Evidence from the East Asian Crisis,' *Economic Notes by Banca Monte dei Paschi Siena,* vol. 28. [3] Dadush, U. and D. Dasgupta (2011), 'The Benefits and Risks of Capital Account Opening in Developing Countries', in *Capital Flows without Crisis*, Routledge, London.

little, has now transformed itself into a major saver and investor. The aggregate savings rate (that is savings as a percentage of GDP) crossed the 30 per cent mark in 2004 and has not looked back since. India's savings and investment rates currently look very much like the statistics one encountered in East Asia in the 1970s and 1980s, during the heydays of their rapid growth. In 2010-11, India saved 32.3 per cent and invested 35.1 per cent of its GDP. This large capital formation becomes even more effective if a substantial part of it is directed to infrastructure. Between 2006 and 2011, net bank credit to infrastructure witnessed a handsome annual growth of 48.4 per cent, even though there has been some deceleration from April 2011 onwards. But even with this, the need to step up investment in this sector remains. Hence, a critical question that India faces at this juncture is *how* to step up infrastructural investment. Recognizing that this is more a matter of financing than bricks and mortar, the Indian Planning Commission has talked about a target of one trillion dollars of infrastructural investment during the Twelfth Five-Year Plan, 2012-17, with about half of this being raised from the private sector (see Chapter 11 for further discussion). This will not be an easy task. During the Eleventh Five-Year Plan, it is estimated that 36 per cent of the infrastructural expenditure came from the private sector.

2.40 The build-up of capital and infrastructure will depend to a great extent on what the government does and also on what it does not do. Some initiatives have been taken *vis-a-vis* take out financing and in the form of Infrastructure Debt Fund. There are areas where virtually all that government needs to do is to create an enabling atmosphere for private players. It does not have to spend money but facilitate private agents to do so. Human capital and research is an example. India, with its history of higher education, has a natural advantage in this. It has the potential to be a major hub of global education. Buying education is so expensive in several industrialized nations that it is possible for India to provide quality education, charge to cover all costs, keep a margin, and still have students come. The surplus generated can be used to increase our own gross enrolment ratio. Providing higher education to the world will also enhance the nation's global stature. Since this is a financially viable operation, all government needs to do is to give educational institutes autonomy, including in terms of fees and salaries, and then allow private investment into the arena. It will also have to work on some nuts and bolts measures such as having provision for foreign students to get four-year visas at one go. There will of course have to be a regulatory framework within which this works, so that students are not misinformed or cheated and do not face mid-course increases in fees. Basically, this is like a resource that is lying unused under the ground. With the right enabling rules, we can create huge returns and boost our own higher education and research sector.

2.41 Returning to the subject of infrastructure, one problem is that these are usually such large projects and also have such long gestation before they become financially viable that most entrepreneurs would have to find agents willing to invest money, such as angel

investors and venture capitalists, before they can start up. Should government get involved in boosting and channelizing private-sector money for this or should it follow a hands-off policy? Should the government give guarantees or comfort letters to investors trying to decide whether to put their money in infrastructure? It is known that such guarantees greatly facilitate investment by reassuring the investor but they also place a responsibility on the government, because if there is a default, the government has an obligation to step in. This is a subject that has been heavily debated internationally. With India about to embark on big infrastructural projects, the debate has come to our doorstep. To look away from it will mean decision by default.

2.42 When trying to undertake large investment projects, reckless governments often used to give guarantees to investors which would, in effect, assert that, in the event of the project going bankrupt, the government would pay off the investor. Experience shows that when a government (with the ability to print money) gives a guarantee, there will be investors galore to put their money in projects. We have, however, come to learn that this may not be such a good strategy for governments. Giving such a guarantee may do nothing to the government's fiscal arithmetic immediately, but it amounts to undertaking future fiscal expenditure. Since there is always the probability that such a guaranteed project will fail in the future, each such guarantee amounts to a certain additional expected expenditure by the government in the future. Hence, such guarantees, given recklessly, can lead to unsustainable fiscal deficits in the future with all their attendant problems, such as inflation, collapse in investment, and, ultimately, economic recession. For this reason, under the Fiscal Responsibility and Budget Management Act 2003, India rightly places restrictions on such guarantees.

2.43 In addition, governments are repeatedly warned by international bearers of fiscal standards not to give guarantees to investors, especially for private-sector initiatives. While this warning is a valid one and governments ought to keep it in mind, there are circumstances where some strategic and well-

## Box 2.7 : Doing Better by Coordination

Among infrastructural projects there is typically a lot of positive externality. The new road that will be operated by a toll system is more likely to be successful if the residential township at the end of the road comes up; and the residential township being contemplated by the developer is more likely to be successful if the road gets built (see [1] and [2]). Government, by giving some carefully orchestrated guarantees to investors, can ensure that all these projects are started up, thereby raising the probability of success for each of these projects. Of course, if they all fail, that will be a more momentous failure. But that precisely is the dilemma. To pretend that there is no dilemma and to be wedded to one of these options by virtue of habit is clearly no solution.

To illustrate this with a simple arithmetic example, suppose there are three projects, pertaining to a road, a township, and a power project. Each entails an initial cost of 100. If the project succeeds, it yields 150; if it fails, the entire initial cost goes unrecovered. If all three projects are undertaken, each project is more likely to succeed, because of the kind of positive externality mentioned; let us suppose that the probability of success of each project, when the other two are implemented, is 0.95. If, on the other hand, the other two are not implemented, then assume the project that is implemented has a probability of success equal to 0.5. If government gives a guarantee to the investor for a project, then for an investor it is worthwhile investing in the project, since she incurs no risk of default. In the event of a default, government pays off the investor the 100 that she had invested.

Suppose now government gives a guarantee to only one project. Assuming that the other projects are not undertaken under the circumstances, there is an expected loss of 50 units of money to the government, since the probability of failure is half and in the event of a failure government has to pay the investor 100. Hence, the expected fiscal deficit rises by 50.

Now suppose Government gives guarantees to all three projects, then all three projects get implemented; and the Government's expected fiscal cost of this is only 15 (= 3 × 0.05 × 100), since there are three projects, each project has 0.05 probability of failure and, in the event of a project's failure, government has to pay 100 units of money. If these projects create socially valuable wealth, which is worth more than 15 units of money, it is arguable that guarantees to all three are desirable; even though it may not be worthwhile giving a guarantee to any single project.

This simple arithmetic is not a reason to rush and give out guarantees or even comfort letters (comfort letters often, in effect, turn out to be like guarantees in the eyes of the law) but it alerts us to the fact that for a nation on the verge of take-off, and with complementarities between projects, the calculus of guarantees and fiscal deficits is not as simple as may seem at first sight. We should evaluate the benefits and fiscal costs of government trying to give a coordinated big push to a cluster of infrastructural projects; and recognize that the costs and benefits would not be the same if we worked this out for each project separately and then simply added them up.

***References*** **:** [1] Murphy, K. M., A. Shleifer, and R. Vishny (1989), 'Industrialization and the Big Push,' *Journal of Political Economy*, vol. 97. [2] Ray, D. (1998), *Development Economics*, Princeton University Press, Chapter 5. [3] Reddy, Y. V. (2002), *Lectures on Economic and Financial Sector Reforms in India,* Oxford University Press.

designed guarantees or comfort letters from the government can be desirable in the overall interest of the nation. This can happen in a buoyant nation on the verge of take-off and considering an expansion in a number of infrastructural projects. Hence, it is an argument that has direct relevance to India. The gist of the argument is surprisingly simple and is outlined in Box 2.7.

## Contracts and Efficiency

2.44 How a nation functions at the level of macroeconomic aggregates depends a lot on the nuts and bolts of the economy. In our concern with managing the large and attention-catching variables, it is easy to let attention slip on the small, which may be vital. The details of how a nation's laws are written up, be it concerning Food Security or Land Acquisition, can make a huge difference to the economy. How cumbersome the procedures are for an importer or exporter completing the customs paperwork and for a company filing tax returns can have a large impact on the nation's ability to compete with other nations. It is important to realize that the aim of government must be to enable and facilitate, not to block and discourage. It was by taking steps towards this that the reforms of the early 1990s unleashed energy and growth in the economy. As Amartya Sen observed in an article published in the first issue of *Prospect* in 1995, where he talks about the importance of equity and human development: 'There is certainly a more secure basis for economic growth in post-reform India. The integration of the Indian economy in the world market and the dismantling of the "license raj" offer economic opportunities that did not exist earlier.' There is a lot going on in India towards this, such as, the effort to nurture domestic innovation and an environment for early stage Venture Capital Funds and Angel investing, as evidenced by the Planning Commission constituting a committee of experts to promote these.

2.45 Looking ahead, while it is not possible to outline all the separate areas in which action is needed, the basic principle is simple. The central driver of a modern economy is the contract. We need a system where individuals and firms are able to get into agreements and contracts quickly and, once they have done so, to be able to rely on these contracts. In the event of someone reneging on a contract, the signatory to the contract who did nothing wrong but is hurt by this should be able to get quick redress. Together these features describe the ethos for 'doing business' in a nation. By the measure of 'Ease of Doing Business', India does poorly. In 2012, the World Bank's cross-country study ranks India 132 among 183 nations. In terms of procedures to start a business and get all the 'permissions' needed, India ranks 166. For getting construction permits, India ranks 181. The one indicator on which India does well is 'protecting investors'. On this, the country gets a rank of 46, which, for a newly emerging economy, is creditable performance. On the other hand, in the hassles of paying taxes India ranks 147 and in enforcing contracts 182.

2.46 Clearly, we still have some distance to go in breaking away from the culture of 'permissionism' that used to permeate so much of our economic lives, thwarting creativity and enterprise. Fortunately, India has begun to work on improving these nuts and bolts components of the economy. As was mentioned in the Finance Minister's Union Budget Speech of 2011, we have now several initiatives in the spirit of facilitating business and the ordinary tax-payer's life:

- The online preparation and e-filing of income tax returns, e-payment of taxes through 32 agency banks, ECS facility for electronic clearing of refunds directly in taxpayers' bank accounts, and electronic filing of tax deducted at source (TDS) returns are now available throughout the country. These measures have empowered taxpayers to meet their tax obligations without visiting an income tax office.
- The Centralized Processing Centre (CPC) at Bengaluru has increased its daily processing capacity from 20,000 to 1.5 lakh returns in 2010-11. This project has won a gold award for e-Governance in 2011. Two more CPCs will become operational in Manesar and Pune by May 2011 and a fourth will come up in Kolkata in 2011-12.
- With the completion of its IT Consolidation Project, the Central Board of Excise and Customs (CBEC) can now centrally host its key applications in customs, central excise, and service tax. The Customs Electronic Data Interchange (EDI) system now covers 92 locations across the country. The CBEC's e-Commerce portal ICEGATE, has also been conferred a gold award for e-Governance.

2.47 There are, in addition, moves to bring in a consolidated GST system, which should, in one go, improve our rank on the various tax efficiency

measures. This can have a large impact on the business ethos of the nation. But it is important to recognize that even with these implemented, there will be much remaining to be done. The guiding principle has to be to respect the space of individuals, not only in terms of freedom of speech and writing, in which India's record is commendable, but also in terms of economic exchange and enterprise.

2.48 A central feature of the market is price. Prices in a market economy typically emerge not by directive but from the decisions of millions of individuals trying to buy and sell goods and services. The prices that emerge from this process are not always fair and, for that reason, we have laws against collusion, anti-competitive behaviour, and price gouging. To go beyond that and try to hold prices down or up by diktat is not, in general, a good idea. It tends to introduce more distortion and bias than the problems it cures. In economic policymaking there are very few inviolable principles; and there is no denial that there are some areas where prices may have to be centrally controlled. But these have to be kept to a minimal list.

2.49 The distortions that arise from such price controls are easy to see. First of all, to lower the price of a good by government diktat means subsidizing both the rich and the poor. Thus once we lower fertilizer price or the price of diesel, large farmers and large car owners also get the subsidy. If we try to prevent this by creating a dual price, a low one for the poor and for small farmers and a high price for the rich and the well-to-do, we promote bureaucratization and incentives for cheating and corruption (see Box 2.8) are rife, since the one who gets it at a lower price can buy and then sell it to the high-price consumer. It is not surprising that the poor complain that when they go for their food rations to the PDS stores, they are often turned away or given

## Box 2.8 : The Risks of Over-regulation

Corruption and poor governance have been major problems in many countries. Often, attempts to curb corruption are accompanied by increases in regulation. However, this may prove to be counter-productive in terms of increasing the overall inefficiency of public bodies. This was highlighted in a recent paper by Bandiera, Prat, and Valleti [1]. The paper distinguishes between 'active waste' and 'passive waste' in public services. 'Active waste' is the situation where the public decision maker benefits directly or indirectly. Corruption in procurement where the price of the procured good is inflated in lieu of a bribe is an example. In contrast, 'passive waste' does not benefit public officials. It can, for instance, arise from onerous regulations which increase the price the public body pays.

The researchers exploited a fortuitous natural experiment arising out of the procurement system in Italian public bodies. The public bodies can purchase goods either directly or through a central procurement agency called Consip. Consip purchases do not offer opportunities for active waste but may be linked to passive waste. Consip has agreements with suppliers for certain goods at given prices at specific periods of time. Since these agreements are not always in operation, the public bodies faced instances when they could purchase a certain good either directly or through Consip and other times when they could only purchase directly. These differential circumstances allow the researchers to pry out propensities for passive waste.

The analysis reveals that there are substantial differences in the average prices paid by different public bodies. These differences are correlated with the type of institution. Semi-autonomous bodies pay the lowest prices. Town governments pay around 13 per cent more than them, regional governments 21 per cent more, and the average ministry pays the most at about 40 per cent higher. The paper provides evidence that those public bodies which have lower passive waste do not tend to have higher active waste. Estimated at around 82 per cent of public purchase waste, passive waste arising from rigidity and regulatory burdens may have effects worse than active waste arising from misuse of discretion. . This does not imply that corruption or active waste is not an important issue. But curbing discretion and increasing regulations may not be the most effective solution. Instead, organizational form matters more, with relatively autonomous bodies performing better. This seemingly counter-intuitive insight indicates that autonomy and discretion with appropriate oversight controls may be better than rigorous and rigid regulation.

While we need to ruthlessly crack down on corruption, it must, at the same time, be recognized that the fear of a large and cumbersome anti-corruption bureaucracy can be detrimental to risk taking and may hamper legitimate activities in public institutions. This is highlighted in the case of the Indian banking sector in a paper by Banerjee, Cole, and Duflo [2]. Building on previous research which indicates that loan officers of public banks are reluctant to lend to growing firms for profitable opportunities, and accounts from the loan officers that cite fear of prosecution for corruption as one reason, the authors study the impact of vigilance activities on lending. They find that vigilance activities result in reduced lending in the affected branch as well as neighbouring branches and the effect persists for around two years. Risk taking also declines in the aftermath of a vigilance event.

In essence, smart policy design needs to be distinguished from mere procedural tightening and bureaucratic expansion, since the latter, if not properly thought out, can increase inefficiencies and wastage in public expenditure and service delivery.

***References*** **:** [1] Bandiera, O., A. Prat, and T. Valleti (2006), 'Active and Passive Waste in Government Spending: Evidence from a Policy Experiment', *American Economic Review,* vol. 99. [2] Banerjee, A., S. Cole, and E. Duflo (2006), 'Are the Monitors Over-Monitored? Evidence from Corruption and Lending in Indian Banks', mimeo.

adulterated foodgrains. The reason is that their share is often sold more profitably to the rich, who pay the market price. This is just a mild manifestation of a problem that was ubiquitous in some countries in the 1970s, 1980s, and 1990s, where price controls were widely used. Prices would be low but goods would vanish from the shelves—'low prices for no goods'. Customers would be turned away or made to wait in long queues to buy limited quantities of basic goods like bread, butter, and soap.

2.50 There is another problem that arises from prices that are kept low for consumers by government diktat. Firms that produce these goods would end up making a loss; so the government has to subsidize these firms or pay for their 'under-recoveries', as this is euphemistically called, to make sure that these goods are manufactured. This in turn means, first of all, a larger fiscal deficit with all its attendant costs; and, additionally and in some ways more importantly, the incentive to be efficient and cut costs virtually vanishes, since the firms know that in the end they will be given a subsidy by the government to cover their costs, whatever they may be.

2.51 There is a third problem with price controls. Prices are signals to consumers and sellers and all those who deal in these products of shortages (or, equivalently, the rising cost of production) and abundance. Prices rise when there is a shortage and decline when there is a glut. Once prices are controlled, we effectively cut off these signals. Take petroleum products, for instance diesel. When the international crude price rises, for India, which has to import the bulk of this product, there is, effectively, a shortage. If prices were left to the market, diesel price would rise in response to this, ordinary people would economize on their use of diesel, and demand would decline, as indeed needs to happen during a shortage. In India, this rarely happens, because the signal of shortages and rising cost of inputs in the area of many fuels and energy resources is not permitted to be transmitted to the consumers.

2.52 All these costs add up massively, creating inefficiencies, large deficits, and extra-inflationary pressures (for goods and services that are not controlled). Hence, we have to take steps in India to move away from price controls. This does not mean that we leave the poor open to the vulnerabilities of the market. It means that we should subsidize the poor, wherever possible, *directly*, that is by shoring up their income by making transfers to their bank accounts or giving them cash. With India's growing sophistication in information technology and ability to identify individuals by bio-markers, this is now entirely within the realm of the possible. Of course, change always means some transactions costs. But to resist those costs at all times is to court perpetual poverty and live with outmoded institutions. India has lived with controlled prices of a variety of petroleum products for a long time and it is not easy to move away from this. Petrol was decontrolled on 25 June 2010; on the same day it was announced that diesel would also be decontrolled but that has not yet happened. The basic problem arises from the fact that petrol and diesel marketing has been a controlled sector for so long (with a system of paying public-sector companies subsidies to cover their costs) that virtually all private players have exited this market.

2.53 In a market where all dominant players are public-sector companies, 'market price' is not a very meaningful concept. It is easy for government to control state-owned companies through nods and winks. So what really needs to be done as a first step is to put petrol pricing on a transparent formula—if the price of crude is x and the exchange rate y, then every month or fortnight, government announces a maximum price of petrol, which anybody can work out from the x and the y. The rule has to be worked out to make sure that the oil-marketing companies can, in general, cover their costs. This will mean that if one company can innovate and cut costs, it will make greater profits. Hence, firms will be more prone to innovate and be efficient under this system. Once the rule is announced, there should be no interference by government. If this is done for a while, private companies will re-enter this market. And once a sufficient number of them are in the fray, we can remove the rule-based pricing and leave it truly to the market (subject to, of course, the usual regulations of antitrust and other competition laws).

2.54 For diesel, where even the rudimentary first step for freeing prices has not yet occurred, a possible intermediate step is to fix a per litre subsidy from the government. In other words, for every litre of diesel sold by an oil-marketing company, the government will give a fixed subsidy of a certain number of rupees. This is not ideal but as an interim measure has several advantages. Note that, since this subsidy is fixed per litre, the government's fiscal burden will not have to take on the full share of the burden created by a rise in the price of crude. The only change in burden will be caused by changes in the aggregate consumption of crude, which is a fairly predictable number. Second, the signalling role of price will now be largely intact. If the price of crude

rises, with the subsidy per litre fixed, the consumer's price will rise and so the signal to save on the use of diesel will be transmitted. It is possible to make this more sophisticated by requiring that the per-litre subsidy will be raised if the price rises too high, in order to cushion the consumer. What is important is that the subsidy should be pre-specified so that, thereafter, government stays fully out of the picture. Whether or not we give a per litre subsidy, till such time when more private firms enter this business, we may have to use a formula-based upper bound on the consumer price. Being formula based, this will move up and down with the international price of crude and the exchange rates and the upper bound will be set so as to ensure that the firms can cover their costs. It is possible to have an upper bound even after private players enter the market, but the purpose of the upper limit will, in that case, be like an antitrust measure to rule out collusive price hikes.

2.55 Another area where we need to do some sophisticated thinking, using ideas from the basic principles, concerns land acquisition. This is vital for India's manufacturing and industrial sector. These sectors have not done well of late. The share of industry in terms of value added in India's GDP had reached a peak of 28.7 per cent but is now down to 27 per cent. While we do not want to make any move to deter the services sector, which continues to be the nation's driver of growth, from doing well, it is critical to boost manufacturing and industry, especially since the demographic dividend will give India an abundance of working-age population.

2.56 In developing industry, it will be important not to make the mistake that was made earlier when India tried to use a system of licensing to direct investment into this sector. Instead, keeping in mind the incentive structure of markets, the government's aim must be to create a level playing field, provide the essential infrastructural facilities and a non-interfering bureaucracy, and then enable the sector to flourish on its own. The development of the small town can play an important role in this. For small towns to do well, the state has to provide for connectivity through roads and railways, basic infrastructure like power and water supply, and law and order. Using the growing connectivity of the major metropolitan cities we can try to provide these facilities along the major highways connecting major cities and encourage the appearance of small towns along this.

2.57 Even with all this, one important precondition for industry to do well is to have a system of buying land from the agricultural sector, since a lot of industry is both land and labour intensive. There are some obvious obstacles to land acquisition in a nation like ours. The crux is what is often called the hold-up problem. Usually, setting up a new industry or a manufacturing unit requires a lot of contiguous land and, since agricultural landownership is highly fragmented, an industrial entrepreneur has to simultaneously negotiate with multiple farmers. And therein lies the problem. In case all farmers agree to sell but one or two, owning land in the middle of this space, refuse, then the entire project could become unviable for the industrial entrepreneur. What this means is that the interests of farmers get pitted against one another. If we force the one farmer holding out to sell, we violate his interest; and if we abandon the project, we are violating the interests of the farmers who want to sell. From this it should be clear what is not often realized that not to have a viable land acquisition policy is to compromise the rights of farmers, namely the rights of those who want to sell their land.

2.58 It is this that necessitates government to step in as mediator. To leave it completely to the market would mean giving in entirely to the hold-up problem. Not only would this slow down industrialization, it also means riding roughshod over the preferences of farmers who want to earn substantial money by selling their land. This is the reason why this is one area where government intervention is considered necessary. The need is to have a well-articulated law on where and under what circumstance and for what kind of payment can government acquire land from farmers for industrial purposes. India's new land acquisition bill is based on a recognition of this problem and it is hoped that we will, before long, have a well-structured eminent domain law, and Indian industry can begin to grow at the rate at which it is capable.

2.59 Research and innovation in ideas is essential for good policy making (see Box 2.9) and one field of inquiry and research crying out for more attention in India is law and economics. A legal system that pays little attention to individual incentives and the laws of economics as it evolves over time, has the danger of becoming so cluttered and conflicted that it becomes difficult for anybody to both do business and not violate the law. If that happens, we face the choice of bringing business and enterprise to a halt or becoming a nation of violators. There is need over time to revisit our laws pertaining to the economy with this in mind. Also the aim has to be to give individuals and firms as clear rights as possible, as much freedom as we can without impinging on the welfare of others, and easy exit routes. Wherever

**Box 2.9 : Delhi Economics Conclave, 2011**

The Ministry of Finance, Government of India in collaboration with the National Institute of Public Finance and Policy (NIPFP), Confederation of Indian Industry (CII), Delhi School of Economics (DSE) and Indian Statistical Institute (ISI) organised a series of lectures, seminars and workshops during the week of 12-17 December 2011. To mark this occasion, the week was declared as the Delhi Economics Conclave (DEC) 2011.The central day of the conclave was on December 14, 2011 when the main plenary sessions were held on the theme: "Economic Policies for Emerging Economies."

The Conclave brought together eminent economic thought-leaders and economic practitioners as well as policymakers and stakeholders in the Indian capital. More than 400 participants from diverse countries including the US, UK, Germany, Australia, Singapore and Bangladesh attended. An intensive interactive forum, it elicited perspectives on the theoretical and practical aspects of an evolving global economic environment, with particular emphasis on the role of India as a large emerging economy, and a vibrant democracy.

With the backdrop of the recent economic and financial crisis, this conference was organized to discuss the ways through which emerging market economies, such as India, could overcome the adverse impacts of these external vulnerabilities. In this respect, the conference deliberated on a number of issues such as spillover impacts of the recession, and economic and social policies to cope with the imminent slowdown. The deliberations converged on the view that emerging economies need to have strong back-up plans and focus more on South-South trade. On distilling various views, there appeared to be six priorities for India: investment and capital formation; increased agriculture output and productivity through government investment; fiscal consolidation; education and skill development to harness the demographic dividend; ensure the flow of foreign investment for asset creation; and focus on inclusive growth through improved health facilities, education and financial inclusion. Policymaking has to move on from a purely mechanistic exercise of implementing well-worn rules to nurturing bold, strategic ideas and putting them to work. Nations that have done so have reaped large benefits. There is need to bring in new people and innovations into the world of policy. A colloquium, like the Delhi Economics Conclave, is a step towards this. But, as India advances and becomes industrialized, we will have to think of more sweeping ways of injecting the imaginative spirit.

possible, when giving a person a right it is best also to give the person the right to sell that right. In the absence of that, valuable assets often get attached to persons and enterprises and are effectively frozen. In India there are entities that have been given land with severe strictures on how that land can be used and with plenty of restriction on selling off the land. The outcome is land under-utilization.

2.60 Similarly with labour laws, there is need to give much greater freedom to both employers and employees to voluntarily sign contracts of different kinds and then have the state recognize the contract and help enforce it. In a modern economy needs across sectors vary. Some may need permanent labour whereas some may serve demands that are volatile and so need flexibility in running their labour force up or down. Likewise, some workers may want permanence of tenure, whereas others may be willing to forego this in order to earn more money. Not to allow these flexibilities means smaller organized labour markets with stagnant wages. All provisions of freedom and flexibility come with certain limits. But when these limits become too binding, we end up curbing the demand for labour and in the end this hurts labourers more than anybody else since the limited demand causes wages to remain low. Similarly, we need to have more transparent exit routes for firms. This will mean a lot of land that remains locked in sick industries will get freed up quickly and increase the overall efficiency of our manufacturing sector. The costs of production of India's manufacturing sector, within the factory walls, are highly competitive. If the transaction and administrative costs can be lowered, industry will get a large boost in terms of competitiveness in international markets These are not matters that can be attended to overnight but if we want to have an efficient economy and society, and want India to take a seat among the world's industrialized nations, these are areas where we will have to act sooner or later.

2.61 Finally, in talking about a nation's economic progress, all attention, including both praise and criticism, is usually focused on the government. It is, however, important to recognize that much also depends on civil society, the firms, the farmers, and ordinary citizens. The social norms and collective beliefs that shape the behaviour of these agents play an important role in how a nation does (Box 2.10). Honesty, punctuality, the propensity to keep promises, the attitude towards corruption are matters shaped in great part by norms and social beliefs and the behaviour patterns can become habitual. Moreover, in a democracy like India, what can be done by government depends in great measure on how ordinary people think and what people believe in. That is what electoral politics is all about. An important reason why this got so little attention in the past is because so much of traditional economics was written as if these non-economic facets of life did not matter. But we now know that a market economy cannot function if people are totally self-

## Box 2.10 : Values and Economics

There is research in psychology and evolutionary biology which shows that morality, altruism, and other-regarding values are an innate part of the human mind, even though the social setting in which a person lives can nurture or stunt these traits. However, the recognition that these human and moral qualities can have a large impact on economic development came relatively late to economics. Hence, the literature on this is relatively recent and brief. There was the celebrated work of Fukuyama, which illustrated how societies that managed to develop higher levels of trustworthiness among the people were societies that had achieved greater economic prosperity. We now know that this is true for many social norms and habits. In fact, recent research shows that having a few 'good' human beings in society can give rise to dynamics through which we end up with an overall better society.

There is also evidence that social norms and habits that at first sight seem ingrained in a society can change over short periods of time. By this argument it is possible for India to nurture and develop the kinds of social norms that enable a more vibrant economy. The following is an interesting example of how social habits change, where the identity of the nation is deliberately withheld from the quotation: 'In his published memoir, Kattendyke (an European visiting this nation) cited a series of events to illustrate the frustrating slowness of the nation. For example, the supplies necessary to make repairs, which he had specifically ordered to be delivered at high tide, did not arrive on time; one worker showed up just once and never returned ... . Kattendyke's frustrations were in fact shared by most of the foreign engineers in the country ... . They often found themselves vexed by the work habits of the locals, and the main reason for their vexation was the apparent lack of any sense of time. To these foreigners, the locals worked with an apparent indifference to the clock.'

The nation in question is Japan, arguably the contemporary world's most punctual society, at the turn of the nineteenth century. The quotation is from [4].

***References*** : [1] Fukuyama, F.(1996), *Trust: The Social Virtues and the Creation of Prosperity*, Free Press, New York. [2] Guha, A. S. and B. Guha (2012, forthcoming), 'The Persistence of Goodness,' *Journal of Institutional and Theoretical Economics*. [3] Hauser, M. D. (2006), *Moral Minds*, Harper Collins, New York. [4]. Hashimoto, T. (2008), 'Japanese Clocks and the History of Punctuality in Modern Japan,' *East Asian Science, Technology, and Society*, vol. 2.

serving. While self-interest is a major driver of economic growth, it is important to recognize that honesty, integrity, and trustworthiness constitute the cement that binds society. At times economists treated these social norms, preferences and customs as unalterable. If that were so, there would not be much point in analysing their effect. But we do know that these qualities in a people can be changed. Honesty and integrity can be nurtured and aversion to corruption can be shored up.

2.62 If these traits are absent or inadequate in a nation, it is likely that that nation will stagnate and remain in a chaotic poverty trap. Take, for instance, contracts. As remarked upon earlier, they enable markets to develop and form the basis of economic life. If the contractual system in a nation is so weak that when a bank gives a 20-year mortgage to a person for buying a house, there is high risk of default, the implication of this is not that banks in this country will make large losses. The implication is that banks will not give loans; and the housing market will remain severely underdeveloped and the total number of houses few and far between. Enforcing complicated or large contracts, especially ones protracted over a long period of time, is the responsibility of the state. The state provides the laws and enforcement to enable people to sign contracts. In India, the state does a fairly good job in the housing mortgage market and banks and individuals rely on that.

2.63 However, economic life is full of everyday 'contracts'—you let me ride in your taxi, and I pay you at the end of it; I pay you money now and you paint my house over the next two days; or you paint my house over the next two days and I pay you after that. In these everyday situations it is too cumbersome to bring in the state and the law courts. Here the main guarantor has to be people's personal integrity and trustworthiness. Societies that have successfully nurtured these qualities have done well; societies that have done poorly on these, tend to do poorly in terms of economic progress. It is not known precisely how these values can be inculcated in society. But, hopefully, writing about their importance will catalyse change, as ordinary people realize that for *economic* advancement these *social* qualities are as important as policies that concern directly with the economy—like running the stock market or setting the rules of market competition. Further, basic literacy and better education are helpful since people can then, on their own, reason and reach these conclusions. Literacy has the added value that it implies ordinary people will demand policies which are truly better, rather than those that merely look good on the surface. And, in a democratic setting like India, this will incentivize politicians to adopt better policies. Finally, if the political leaders and policymakers act as role models in terms of these qualities of honesty, integrity, and trustworthiness, that can set the ball rolling.